

Appl. Ser. No. 10/737,240

Amend C in Resp to O/A 05/18/06

REMARKS**DETAILED ACTION Claim Rejections - 35 USC § 102**

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
- (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351 (a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. The Examiner has rejected Claims 21-29 under 35 U.S.C. 102(b) as being anticipated by Tano (JPN 10-156298 A, machine translation).

Tano teaches a method of cleaning a stencil (printing plate) or tooling by applying ultrasonic vibration and a washing fluid. Vibrational energy is used for cleaning and drying (abstract and translation paragraphs 15 and 21). The method comprises a printing step (paragraph Fluid and vacuum are applied (col 27 lines 11 -52 and col 37 lines 8-27). The apparatus comprises mechanisms for aligning areas, placing solder, cleaning the stencil and applying vibrational energy through air or a fluid medium (col 16 lines 35-50 and col 26 line 58 - col 3 line 65). The drying device is moved with the vibrator relative to the screen. Although the reference does not explicitly disclose drying the stencil, since vibrational energy is supplied to a screen which is not submerged, the

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vibrational energy would move a portion of the washing agent through the holes in the screen thereby partially aiding the drying process which follows (col 12 lines 50-62).

Applicant respectfully notes that at least a portion of the above (as presented in the office action) is ambiguous when reviewing Tano. Applicant has amended the claims as well as provided arguments from what is best understood from reviewing Tano and the markings provided by the Examiner in the copy of Tano provided. Should the Examiner have any questions or believe that there are any informalities that can be corrected by Examiner's amendment, Applicants earnestly request the Examiner contact the Agent of record.

Claim 21 is an independent Claim. Claim 21 has been amended herein to more clearly and concisely define the present invention as follows "applying vibrational energy by ~~at least one of mechanically coupling a vibrational energy source and the at least one of electronic assembly, stencil, and tooling related to manufacture of electronic assemblies and transferring the vibrational energy through the air, directed said vibrational energy towards the at least one of electronic assembly, stencil, and tooling related to manufacture of electronic assemblies to aid in drying the at least one of electronic assemblies and tooling related to manufacture of electronic assemblies by atomizing moisture droplets resident to the at least one of electronic assemblies and tooling related to manufacture of electronic assemblies."~~

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Claim 21 is limited in the element of "transferring the vibrational energy through the air". Neither Tano (JP410156298A) or Asai, et al. '060 teach applying vibrational energy through the air to dry at least one of electronic assembly, stencil, and tooling related to manufacture of electronic assemblies.

Applicants earnestly believe that the rejection of Independent Claim 21 under 35 U.S.C. 102(b) as being anticipated by Tano has been overcome by amendment and remarks herein. Applicants respectfully request the Examiner reconsider and withdraw the rejection of Independent Claim 21 under 35 U.S.C. 102(b) as being anticipated by Tano.

Claims 22-25 depend directly or indirectly from Independent Claim 21. Further, Tano fails to teach transferring the relational proximity of said vibrational source and the at least one of electronic assembly, stencil, and tooling related to manufacture of electronic assemblies. Applicants believe the rejection of Independent Claim 21 under 35 U.S.C. 102(b) as being anticipated by Tano has been overcome by amendment and remarks herein. Applicants therefore believe that the rejection of depending claims 22-25 under 35 U.S.C. 102(b) as being anticipated by Tano has been overcome by remarks herein. Applicants respectfully request the Examiner reconsider and withdraw the rejection of Claims 22-25 under 35 U.S.C. 102(b) as being anticipated by Tano.

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Claim 26 is an independent Claim. Claim 26 has been amended herein to more clearly and concisely define the present Invention as follows "applying vibrational energy by at least one of mechanically coupling a vibrational energy source and the solder stencil and transferring the vibrational energy through the air directed towards the solder stencil to aid in drying the solder stencil.

moving a vibrational energy source respective to said solder stencil, and utilizing said vibrational energy to assist in drying any residual fluid from said solder stencil by atomizing said residual fluid away from a top surface of said solder stencil."

Tano fails to teach a step of moving said vibrational energy source respective to said solder stencil. Tano requires that the stencil remain motionless and the cleaning apparatus is the same size as the stencil. This configuration requires a larger quantity of ultrasonic horns, as illustrated. This configuration further limits the functionality of the overall machine.

Applicant has amended Claim 26 to include the element of "moving a vibrational energy source respective to said solder stencil".

Applicants earnestly believe that the rejection of Independent Claim 26 under 35 U.S.C. 102(b) as being anticipated by Tano has been overcome by amendment and remarks herein. Applicants respectfully request the Examiner reconsider and withdraw

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the rejection of Independent Claim 26 under 35 U.S.C. 102(b) as being anticipated by Tano.

Claims 27-29 depend directly or indirectly from Independent Claim 26. Applicants believe the rejection of Independent Claim 26 under 35 U.S.C. 102(b) as being anticipated by Tano has been overcome by amendment and remarks herein. Applicants therefore believe that the rejection of depending claims 27-29 under 35 U.S.C. 102(b) as being anticipated by Tano has been overcome by remarks herein. Applicants respectfully request the Examiner reconsider and withdraw the rejection of Claims 27-29 under 35 U.S.C. 102(b) as being anticipated by Tano.

3. The Examiner has rejected Claims 21-40 under 35 U.S.C. 102(e) as being anticipated by Asai et al. (USPN 5988060).

Asai teaches an apparatus and method of cleaning a stencil after screen printing (col 16 lines 35-50) by wiping with wet paper (col 28 lines 51-67 and col 41 lines 25-35) and applying ultrasonic vibration through air (col 26 line 58 - col 27 line 10) and the washing fluid. Fluid and vacuum are applied (col 27 lines 11-52 and col 37 lines 8-27). The apparatus comprises mechanisms for aligning areas, placing solder, cleaning the stencil and applying vibrational energy through air or a fluid medium (col 16 lines 35-50 and col 26 line 58 - col 3 line 65). The drying device is moved with the vibrator relative to the screen. Although the reference does not explicitly disclose drying the stencil, since vibrational energy is supplied to a screen which is not submerged, the

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vibrational energy would move a portion of the washing agent through the holes in the screen thereby partially aiding the drying process which follows (col 12 lines 50-62).

Claim 21 is an Independent Claim. Claim 21 has been amended herein to more clearly and concisely define the present Invention as follows "applying vibrational energy by ~~at least one of mechanically coupling a vibrational energy source and the at least one of electronic assembly, stencil, and tooling related to manufacture of electronic assemblies and transferring the vibrational energy through the air, directed said vibrational energy towards the at least one of electronic assembly, stencil, and tooling related to manufacture of electronic assemblies to aid in drying the at least one of electronic assemblies and tooling related to manufacture of electronic assemblies by atomizing moisture droplets resident to the at least one of electronic assemblies and tooling related to manufacture of electronic assemblies.~~"

Claim 21 is limited in the element of "transferring the vibrational energy through the air". Neither Tano (JP410156298A) or Asal, et al. '060 teach applying vibrational energy through the air to dry at least one of electronic assembly, stencil, and tooling related to manufacture of electronic assemblies.

Asal et al. further is limited in the teaching of vibrational energy for cleaning. Asal et al. teaches a holddown member 860 is opposed to the ultrasonic vibrator 630 (Col. 40, Lines 49-52). Said holddown would not allow any vibrational energy from the

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cleaning process to also be utilized as an evaporative process or a drying process, as it is utilized to maintain fluid within the apertures.

Applicants earnestly believe that the rejection of Independent Claim 21 under 35 U.S.C. 102(e) as being anticipated by Asai et al. has been overcome by amendment and remarks herein. Applicants respectfully request the Examiner reconsider and withdraw the rejection of Independent Claim 21 under 35 U.S.C. 102(e) as being anticipated by Asai et al.

Claims 22-25 depend directly or indirectly from Independent Claim 21. Applicants earnestly believe that the rejection of Independent Claim 21 under 35 U.S.C. 102(e) as being anticipated by Asai et al. has been overcome by amendment and remarks herein. Applicants therefore believe that the rejection of depending claims 22-25 under 35 U.S.C. 102(b) as being anticipated by Asai et al. has been overcome by remarks herein. Applicants respectfully request the Examiner reconsider and withdraw the rejection of Claims 22-25 under 35 U.S.C. 102(b) as being anticipated by Asai et al..

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Claim 26 is an independent Claim. Claim 26 has been amended herein to more clearly and concisely define the present Invention as follows "applying vibrational energy by at least one of mechanically coupling a vibrational energy source and the solder stencil and transferring the vibrational energy through the air directed towards the solder stencil to aid in drying the solder stencil,

moving a vibrational energy source respective to said solder stencil, and utilizing said vibrational energy to assist in drying any residual fluid from said solder stencil by atomizing said residual fluid away from a top surface of said solder stencil."

Asai et al. further is limited in the teaching of vibrational energy for cleaning. Asai et al. fails to teach a step of using said vibrational energy as a means for drying said stencil. Asai et al. teaches a holddown member 860 is opposed to the ultrasonic vibrator 630 (Col. 40, Lines 49-52). Said holddown would not allow any vibrational energy from the cleaning process to also be utilized as an evaporative process or a drying process, as it is utilized to maintain fluid within the apertures.

Applicants earnestly believe that the rejection of Independent Claim 26 under 35 U.S.C. 102(e) as being anticipated by Asai et al. has been overcome by amendment and remarks herein. Applicants respectfully request the Examiner reconsider and withdraw the rejection of Independent Claim 26 under 35 U.S.C. 102(e) as being anticipated by Asai et al.

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Claims 27-34 depend directly or indirectly from Independent Claim 26. Applicants believe the rejection of Independent Claim 26 under 35 U.S.C. 102(b) as being anticipated by Asai et al. has been overcome by amendment and remarks herein. Applicants therefore believe that the rejection of depending claims 27-34 under 35 U.S.C. 102(b) as being anticipated by Asai et al. has been overcome by remarks herein. Applicants respectfully request the Examiner reconsider and withdraw the rejection of Claims 27-34 under 35 U.S.C. 102(b) as being anticipated by Asai et al..

Claim 35 is an independent Claim. Claim 35 has been amended herein to more clearly and concisely define the present invention as follows "to aid in drying the stencil wherein said vibrational energy for drying is applied in a manner to evaporate the material via the top of said stencil".

Asai et al. further is limited in the teaching of vibrational energy for cleaning. Asai et al. fails to teach a step of using said vibrational energy as a means for drying said stencil. Asai et al. teaches a holddown member 860 is opposed to the ultrasonic vibrator 630 (Col. 40, Lines 49-52). Said holddown would not allow any vibrational energy from the cleaning process to also be utilized as an evaporative process or a drying process, as it is utilized to maintain fluid within the apertures.

Applicants earnestly believe that the rejection of Independent Claim 35 under 35 U.S.C. 102(e) as being anticipated by Asai et al. has been overcome by amendment and remarks herein. Applicants respectfully request the Examiner reconsider and

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withdraw the rejection of Independent Claim 35 under 35 U.S.C. 102(e) as being anticipated by Asai et al.

Claims 36-40 depend directly or indirectly from Independent Claim 35. Additionally, Claim 39 comprising the limitation of solidifying a printable medium applied onto an IC wafer. Asai et al. fails to teach solidifying a printable medium applied onto an IC wafer. Regarding Claim 40, Claim 40 comprising the limitation of applying vibrational energy to assist in the releasing of the printable medium from said stencil. Asai et al. fails to teach applying vibrational energy to assist in the releasing of the printable medium from said stencil.

Applicants earnestly believe that the rejection of depending Claims 36-40 under 35 U.S.C. 102(e) as being anticipated by Asai et al. has been overcome by amendment and remarks herein. Applicants respectfully request the Examiner reconsider and withdraw the rejection of depending Claims 36-40 under 35 U.S.C. 102(e) as being anticipated by Asai et al.

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CONCLUSIONS

Applicants believe the amendments and remarks herein provide a complete response to the Office Action mailed on May 18th, 2006. The Examiner has established a shortened statutory period of three (3) months for response to the Office Action.

Applicants have responded to the Office Action on or before August 18th, 2006 with a proper certificate of correspondence. Therefore, the Applicants believe the response is timely and no additional fees are required.

Applicants believe Amendment C submitted herein is in proper format and meets the proper identification terminology as directed by 37 CFR § 1.121 for both the originally submitted and currently pending claims.

Applicants believe that no new matter has been introduced.

The present application, after entry of this amendment, comprises twenty (20) claims, including three (3) independent claims. Applicant has paid for twenty (20) claims, including three (3) independent claims. Applicant, therefore, believes that no additional fee respective to claims is currently due.

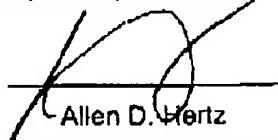
If the Examiner believes that there are any informalities that can be corrected by Examiner's amendment, a telephone call to the Applicant (Allen Hertz) at (561) 883-

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0115 (Office)(Please leave a message) or (561) 716-3915 (Cell phone) is respectfully solicited.

Respectfully submitted,



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Please submit all correspondence concerning this patent application to:
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